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Policy Papers

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Healthy linguistic diet: the value of linguistic diversity and language learning across the lifespan

by **Thomas H Bak**, **Dina Mehmedbegovic**

- There is a widespread and often implicit tendency to consider monolingualism as the default state of individuals and societies. Multilingualism is considered in this context as a burden, posing challenges particularly to the education system.
- In contrast, research evidence shows that multilingualism is common globally and on the increase in the UK. It is associated with better cognitive performance and higher academic achievement in children and with slower cognitive ageing, delayed onset of dementia and better recovery from stroke in later life.
- These benefits can already be observed during language learning, long before learners become proficient, and have been reported in language learners of all ages.
- We propose a positive re-evaluation of multilingualism illustrated by the notion of a 'healthy linguistic diet', based on the idea that exposure to different languages, learnt to different levels of proficiency, can have positive effects across the whole lifespan, benefiting individuals and societies.
- We outline some practical implications of this concept, such as the inclusion of a healthy linguistic diet in the Healthy Schools Initiative and promotion of language learning and multilingual language use as a beneficial mental activity in healthy ageing.

The monolingual default

The idea that having just one language is the normal state for most human beings is often taken as so self-evident that it does not need any further justification. This can be seen, among others, in language-related census questions, asking for the *first/native/main/preferred language* and excluding the option that those terms could refer to different languages in the same person; likewise, parents of school-children are being asked about their ‘*home language*’, assuming that a family cannot have multiple ‘home languages’. This division into ‘home language’ versus English does not reflect the diversity and complexity of the current linguistic landscape in the UK. Even if parents are not English native speakers, English might still be their only common language of communication or they might decide, often based on ill-informed professional advice, to give up their original language in favour of English. Moreover, although parents might speak other languages than English, the exposure to English in the nursery, playground or school might still make it the dominant language of the child. Accordingly, the broad and inclusive definition of *exposure to more than one language* (Hall et al. 2012) is more suitable to the context where there are many different types of multilingualism with various degrees of competencies in languages used. Such a situation does not only occur in inner London, where over 50% of school children classify as multilingual, using 233 different languages (Eversley et al. 2010). Changes in immigration patterns mean that other urban and even rural areas of the UK are also becoming increasingly multilingual.

The assumption of a single main/preferred language becomes even more inappropriate across the whole lifespan, as it does not take into account changes in language dominance through study, work, emigration, marriage etc. Change of language preferences throughout lifetime and their differential use in specific contexts (e.g. family/friends versus school/work) is well documented (de Bruin et al. 2016). The notion of a main/dominant language is also not supported by studies of brain function. Contrary to popular belief, the first language is not always better preserved after stroke, in dementia or other brain diseases. Moreover, multilingualism in any age group is often associated with code-switching. Far from being a chaotic failure to control language output, switching relies on the linguistic competence of the listener, so that only those languages are used which can be understood. Recent theories postulate that code-switching is one of the driving forces behind increased cognitive abilities and delayed onset of dementia in multilinguals (Green and Abutalebi 2016). In terms of education, contrary to the long-standing taboo against mixing languages in school, recent research demonstrates that learning new material mixed in different languages does not have any negative effects on learning outcome. Summarising, **differential language dominance, flexible use and switching** in multilingual environments are normal, frequent and not detrimental; indeed, they might be beneficial.

Multilingualism as a burden

Many discussions around multilingualism focus on its potential negative impact, particularly the challenge it poses to education system, as exemplified by the topic of English as an Additional Language (EAL). The Institute of Education (2007) identified several problems in this area, including lack of understanding of EAL specialism among school leaders, increasing financial pressures and insufficient recruitment of specialist teachers who are increasingly being replaced by teaching assistants. However, a constant stream of evidence since 1960’s points to positive effects of multilingualism on cognitive performance of children, such as better focus on tasks and ability to ignore distractions (Bialystok 2009). Cummins (1991) shows that the crucial elements of multilingualism leading to better academic achievement are (a) **exposure** to more than one language, providing broader linguistic experiences with the access to a wider range of thinking modes, (b) **switching** between the two languages, exercising flexibility in thinking, (c) conscious or subconscious **comparison** of two languages, using the knowledge of one language to advance the other result in a high level of metalinguistic skills (all three points reflecting the reality of living in a multilingual environment, as delineated in the previous section). Importantly, the positive effects of

multilingualism are not confined to childhood, but extend across the whole lifespan. Recent research has demonstrated that multilinguals, compared with monolinguals, show slower cognitive ageing, develop dementia 3–6 years later, and recover better from stroke. Thus, cognitive effects of bilingualism appear early and continue throughout the whole lifespan (Bak 2016).

However, despite all the evidence presented above, the view of multilingualism as a burden still persists, often supported through a scientifically not well-founded idea of the brain as a vessel with finite capacity to store information: *‘The human brain can only contain a finite amount of information and as English speakers we are fortunate not to need a secondary language. That space is much better utilised for science, history and our rich culture’* (Broer et al. 2016). This view of the brain, however intuitively appealing and convincing it might be, is not in line with the current understanding of neuroscience. We know that what matters is not just single nerve cells (neurons), but their connections (synapses). Synapses link neurons into complex interactive functional networks, which can be observed both in healthy brain and in different forms of neurological disorders. In contrast, the view of multilingualism as enrichment can be easily integrated into current concepts of neuroscience such as ‘connectivity’ (the importance of functional connections between different brain areas), ‘neuroplasticity’ (the lifelong ability of the brain to reconfigure and adapt) and ‘cognitive reserve’ (the ability of the brain to compensate, at least partly, emerging pathological changes).

Early effects of language learning

The benefits of multilingualism described above are not limited to ‘perfect’ multilinguals, who acquired their languages in early childhood. In the majority of recent studies showing beneficial effects of multilingualism on cognitive functions in young adults, in cognitive ageing, in the recovery from stroke and in dementia, the definition of multilingualism was not based on early acquisition and perfect, ‘native-like’ command of the languages in question, but on the ability to communicate in them. Indeed, in a recent study, even a one-week intensive language course improved attention and this effect remained stable 9 months later in those who practiced 5 hours/week or more (Bak et al. 2016). Accordingly, a multilingual environment encouraging language learning would be beneficial not only to children coming from multilingual households, but also to the primarily monolingual English-speaking population. The cognitive benefits are not dependent on acquiring high proficiency, let alone perfection in the languages being learned. A focus on proficiency should not lead to the neglect of other important aspects of language acquisition, including its cognitive effects.

Plurality, exposure, engagement

While the terms *‘bilingualism’* and *‘multilingualism’* continue to be frequently used (in this paper, we use ‘multilingualism’ as an overarching term, including ‘bilingualism’ as the knowledge and use of two languages), European Council policies promote a vision of **‘plurilingualism’**. The main distinction is that a multilingual approach is about having many different languages coexist alongside each other, but separately, within individuals or society, with the ultimate aim of achieving the idealized competency of the native speaker in each language (Council of Europe, 2001). In contrast, a plurilingual approach places emphasis on the development of effective communication skills, which draw on all linguistic and cultural experiences in an interactive way. This is promoted as a lifelong activity/engagement, a process of learning the language of home, society and other peoples; developing communicative competencies throughout our lifetime; and flexibly calling in different situations upon different parts of this competence in order to achieve effective communication. Plurilingualism recognizes a holistic communication competence that is made up of different languages that one person has been exposed to, and acknowledges the partial nature of the knowledge anyone can have of one language, be it their mother tongue or not. Therefore plurilingualism removes the ideal of the native speaker as the ultimate achievement and replaces it with the aim of an effective

pluralistic communicator who draws on his/her varied repertoire of linguistic and cultural knowledge in a flexible, creative and individual way (Council of Europe, 2001). A plurilingual society leads naturally to an exposure and engagement with multiple languages and leads to understanding, conceptualising and developing models of practice, which include home language support.

It is important to stress that such an approach benefits not only the multilingual, but also the monolingual individuals in the society. Evidence collected in Britain on peer and sibling learning supports the view that early age bilingual children will, with a little encouragement in the school context and even no encouragement in the home context, be inclined to share their insights into different languages and teach what they know to other children around them (Kenner 2004, Mehmedbegovic, 2011). The benefits of a monolingual–multilingual interaction can also occur at the other end of the life spectrum, as illustrated by a new Scottish social enterprise, **Lingo Flamingo** (<http://www.lingoflamingo.co.uk>). Lingo Flamingo seeks to address at the same time two important issues of our time: cognitive and social effects of ageing and dementia and immigration and refugee crisis. Based on the research showing beneficial effects of bilingualism in dementia, the company offers language lessons as a form of cognitive training to patients with Mild Cognitive Impairment (MCI) and dementia. Such lessons might not only improve cognitive functions in dementia patients but also alleviate social isolation often accompanying ageing and dementia and boost self-confidence and willingness to engage in mental activities in general. At the same time, Lingo Flamingo is trying to employ refugees as language tutors. This not only provides them with employment but might change the way in which refugees are perceived: the knowledge of languages, which many refugees bring with them, is recognized as a value which can benefit the whole society.

Integrating education and cognitive science: Healthy linguistic diet

Mehmedbegovic (2011) was the first to conceptualize a healthy linguistic diet approach based on her research on attitudes to bilingualism in England and Wales. She established that the language diversity in England and Wales, further complicated by the uneven and fluctuating numbers of speakers of particular languages, represents real obstacles to developing provision for minority languages in terms of tuition. Therefore, she argued that an awareness of the issues linked to the benefits of bilingualism and the importance of language diversity and language maintenance should be built into the mainstream curriculum. Mehmedbegovic exposes in her research that systematic lack of engagement with the multilingualism of children going through the system, throughout key institutions, leads to drawing parallels with the criticism of policies and practices that have failed to engage with the racial and ethnic differences labelled as ‘colour blind’ or what Blommaert and colleagues term ‘normative monoglot ideologies’ (Blommaert et al. 2006). This blindness to diverse linguistic profiles imposes a fallacy that not only is monolingualism the norm, but that everything else is undesirable or even embarrassing. The argument that ‘children just want to fit in and be like the others’ is at odds with the growing number of schools where the ‘others’ are predominantly also bilingual or multilingual. Bilingual children, who choose to self-identify as monolinguals as evidenced in her data, are more likely trying to fit in with the only affirmed profile in their learning environment: the monolingual one. The crucial questions are: how do schools which have speakers of 40 or more languages represented provide ‘an affirmative mirror’ to all of them? How do they communicate to bilingual children that their bilingualism is a resource?

The vision outlined by Mehmedbegovic is that, first of all, multilingual children and their parents need to be given a clear, affirmative, consistent message by the school and their teachers in terms of a healthy bilingual linguistic diet. It should be a part of the Healthy Schools Initiative, currently implemented in schools focusing on healthy eating and lifestyle. As well as using every opportunity to say: ‘It is good for you to eat fruit and vegetables every day’; schools should also say: ‘It is good for you to speak, read and write in different languages’. This basic principle became clear while doing a focus discussion group with a group of Bangladeshi boys in Pimlico School. One boy identified

bilingualism as the reason for their underachievement, while another stated: *'I don't think having two languages is a problem. I read in a scientific journal that it develops your brain.'* Mehmedbegovic argues that schools should not leave 14-year-old students to look for answers whether multilingualism is good for them or not. Pupils (and parents) should be explicitly told. Relevant printed information should also be available for families in health centres, nurseries and schools. Based on this first-hand experience from an inner London school Mehmedbegovic has been working on developing principles and strategies which can be used for an approach in education conceptualized as a healthy diet – in this case a linguistic diet. Considering a big push for healthy life-styles and healthy eating under the umbrella initiative Healthy Schools – she suggests that concept of a healthy linguistic diet should be integrated into Healthy Schools Initiative. It has a real potential to contribute to its aims: raise achievement across the curriculum, improve long term health, enhance wellbeing and improve inclusion.

However, the notion of a healthy linguistic diet, although developed, as outlined above, in the field of education, resonates equally well with the current medical and neuroscientific debates about healthy lifestyle and particularly healthy ageing. Alongside physical and mental exercise, healthy diet is considered an integral part of a healthy lifestyle and a potential factor delaying the onset of dementia, stroke and other diseases. An important feature of the concept of diet is that it is more than just a sum of all its ingredients. If we take for example the much-discussed concept of the “Mediterranean diet”, it would not be meaningful to isolate one single ingredient such as olive oil, rocket, tomatoes, red wine etc. as the single source of all beneficial effects (the same holds for oriental diets such as Chinese, Korean or Japanese). It is their combination that matters. Likewise, language cannot be reduced to a sum of sounds, words and grammatical rules, cognitive effects of bilingualism to a single test of executive function or the richness of a multilingual (or better still plurilingual) environment to a listing of different languages that occur in it.

In summary, the concept of healthy linguistic diet emphasises that a multilingual, or indeed plurilingual society provides a healthy natural environment promoting the beneficial effects of linguistic diversity for the whole population, multilingual as well as (still) monolingual. With this paper we aim to initiate innovative cross-disciplinary work that will use evidence and insights from medicine, cognitive science, sociolinguistics and education to develop vision for policy and practice spanning across health and education sectors. We intend to develop our joint work in the direction of developing a model which aims to utilise linguistic diversity in the UK for improved academic achievement, employability and wellbeing of all its citizens and communities – and at the same time become a model for other multilingual societies.

Healthy linguistic diet – implementation

There are many ways in which the concept of a healthy linguistic diet could be implemented:

School education

- Providing regular and rich opportunities for engagement and use of different languages in schools.
- Eliminating misconceptions about multilingualism as a problem and replacing them by affirmative messages
- Highlighting that most cognitive benefits of bilingualism apply also to those who learn another language in school/university or outside of school.
- Providing teachers with examples of good practice, guidance and training to develop skills essential for integrating home languages across the curriculum. This shift in practice should be led by the awareness that where home languages are part of teaching and learning, the impact of it will be evident in improved results across the curriculum as a whole. This approach, which includes

home and foreign languages, should start with early years learning and continue through lifelong education. The overall aim should be: supporting bilingual children in developing their full potential, and positive attitudes towards this specific intellectual potential that they have. At the same time, approaches used to support children in maintaining their home languages should also be utilized for all children in order to develop interest and enthusiasm for learning other/foreign languages. A recent EU funded project, LUCIDE (Languages in Urban Communities for Integration and Diversity in Europe), has produced a set of toolkits: guidance documents with examples for educators and other professionals in public services which provide a useful starting point and ongoing support in developing good practice. These toolkits are based on research evidence and examples of good practice collected from a network of 13 European multilingual cities including London and in partnership with cities from Canada and Australia.

- Providing access to and sharing relevant knowledge on the values and advantages of bilingualism: Bilingual children and their parents need to be given clear, affirmative and consistent messages by schools and their teachers in terms of the benefits of bilingualism and home language support. Students (and parents) should be given advice on what they can do themselves in order to support their own bilingual development.
- Bilingualism Matters Centres, whose mission is to provide evidence and advice to all stakeholders (parents, educators, policy makers) to make informed decisions regarding bilingual children, would make excellent partners to schools and school leaders in securing access to the latest research evidence. In the UK there are currently two Bilingualism Matters centres: Edinburgh and Reading. More about their mission, activities and possibilities for partnerships can be accessed on their website (see resources section below).
- Providing a framework which supports lifelong development of bilingual competencies: All children (monolingual and bilingual/plurilingual) and adults (monolingual and bilingual/plurilingual) in schools and other educational contexts should be encouraged to develop behaviour and habits supporting lifelong development of bilingual/plurilingual competencies. These practices need to become an integral part of efforts to bring up children in the spirit of the Healthy School Initiative leading to a healthy life style.
- The Council of Europe places particular importance on lifelong development of plurilingual competencies, with plurilingualism defined as competencies in different languages and their varieties which individuals engage with in their lifetime. EU language policy is based on the principle that all individuals 'are entitled to develop a degree of communicative ability in a number of languages over their lifetime in accordance with their needs'. EU language policy which can support efforts we are advocating for lifelong learning can be accessed on this website.

Ageing and dementia

- In the context of healthy cognitive ageing and brain diseases, the affirmative message about multilingualism, language learning and language use is best integrated into information campaigns promoting a physically and mentally active lifestyle, as exemplified by the inclusion of information about language learning into a recent 'Staying Sharp' website of Age UK.
- Those who know more than one language should be encouraged to use them actively as much as possible; in the case of grandparents (or other family/community members involved in raising children) this could have a double effect of building up their own 'cognitive reserve' while transmitting their knowledge to younger generations.

- For those who don't know any other languages (or want to learn a new one), the message is: 'it's never too late'; it is particularly important to counteract the prejudice that older people are not able to learn new things. The older we get, the more important it is to continue learning new things, and learning languages is one of the best ways of keeping our mind active.
- Even in cases of mild cognitive impairment (MCI) and dementia, language learning and practice could slow down cognitive deterioration; although this is still a topic of ongoing research, there are reasons to believe that language learning and practice might still have a beneficial effect even after the onset of disease.
- In short, a multilingual environment, encouraging and supporting lifelong learning and use of different languages can be seen as part of a healthy lifestyle, as much as physical activity and a healthy, balanced, versatile diet.

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Resources

- Age UK: <http://www.ageuk.org.uk/health-wellbeing/staying-sharp/looking-after-your-thinking-skills/speaking-more-than-one-language/>.
- Alzheimer's Society: http://www.alzheimers.org.uk/site/scripts/press_article.php?pressReleaseID=90
- Bilingualism Matters: <http://www.bilingualism-matters.ppls.ed.ac.uk>
- Council of Europe Language Policy http://www.coe.int/t/dg4/linguistic/Division_EN.asp
- EU Language policy: Plurilingualism http://www.coe.int/t/dg4/linguistic/Division_EN.asp
- Healthy Schools: <http://dera.ioe.ac.uk/6798/1/Introduction.pdf>.
- Lingo Flamingo: <http://www.lingoflamingo.co.uk>.
- LUCIDE: <http://www.urbanlanguages.eu/>

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